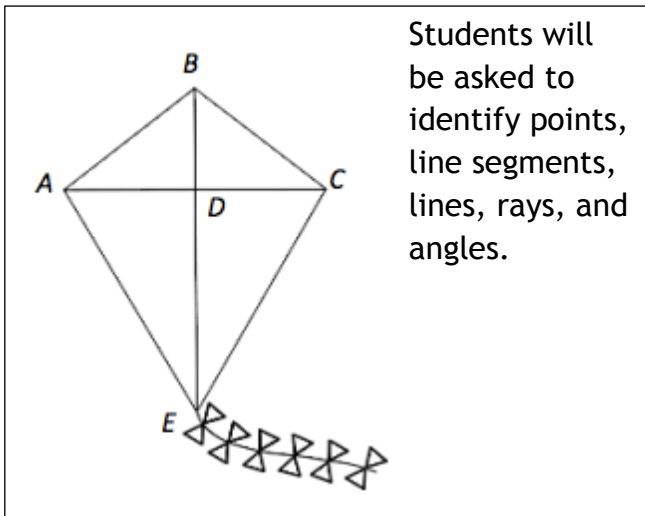


Identifying Properties of 2-D Figures

Key Content from This Unit:

Students draw and identify lines, line segments, points, rays, and angles in two-dimensional figures. Learners also classify 2-D shapes by properties of their lines (parallel and perpendicular) and angles. Additionally, they recognize right triangles. Students can recognize, identify, and draw a line of symmetry in a 2-D shape. In addition, students generate a number or shape pattern that follows a rule, identifying features that are not explicit in the rule itself.



Students will be asked to identify points, line segments, lines, rays, and angles.










What came before this:

In grade 3, students understood different categories of shapes by their attributes through describing, analyzing, and comparing the shapes. For example, when given a rhombus, square, and rectangle, students identified that they can be in the same category because of the number of sides and angles.

What comes after this:

In grade 5, students will classify two-dimensional figures into categories based on their properties. They will begin to understand that there are subcategories within a category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.

Vocabulary to Know:

right angle	
acute angle	
obtuse angle	
straight angle	
segment	
line	
ray	
parallel lines	
perpendicular lines	

Common Core Focus:

- Draw and identify lines, line segments, points, rays, and angles in two-dimensional figures.
- Classify shapes by properties of their lines and angles.
- Recognize, identify, and draw a line of symmetry for 2-D figures.
- Generate and identify the features of a number or shape pattern that follows a given rule.
- Draw and identify perpendicular and parallel lines in 2-D figures.
- Identify and recognize right triangles.

4.G.1, 4.G.2, 4.G.3, 4.OA.5

Spotlight on the Math Practices

Use Appropriate Tools Strategically

Mathematically proficient consider the available tools when solving a mathematical problem and decide when certain tools might be helpful.

In this unit, students will *use appropriate tools strategically* such as:

- geometric shapes, corners of paper, tiles, rulers, protractors, and graphic organizers to determine angles, classify two-dimensional shapes, and draw lines of symmetry.

How Can You Help?

- Review vocabulary! This unit introduces many new terms and ideas. Use your student's homework to find key terms to review.
- Look at pictures of building in magazines and ask what points, line segments, rays, angles, parallel lines, and perpendicular lines do you see?

KEY MATHEMATICAL MODELS of the COMMON CORE

Total Physical Response

In the world of language learning, "total physical response" refers to the coordination of language and physical movement. In this unit, there are many new geometry terms and ideas that students must remember. Using their bodies in connection with new vocabulary helps students to cement these new words and their meanings in lasting ways. Students may use body movements and positioning to indicate terms such as point, line segment, ray, acute, obtuse, and right angles, as well as many others.

<i>What teacher says:</i>	<i>What students do:</i>
Model a point	Clench one hand in a fist.
Model a ray	Extend arms straight so that they are parallel with the floor. Clench one hand in a fist and point the fingers of the other hand towards the wall.
Model a right angle	Stretch one arm up, directly at the ceiling. Stretch another arm directly towards a wall, parallel to the floor.
Make an angle that measures approximately 60°	Open arms apart to approximately 60° .

Some Resources to Help at Home

- <http://studyjams.scholastic.com/studyjams/jams/math/geometry/types-of-lines.htm> - sing to learn the name of lines and shapes
- <https://learnzillion.com/lessonsets/381-draw-and-identify-points-lines-rays-and-angles> - watch videos on points, lines, rays and angles from learnzillion
- http://www.harcourtschool.com/activity/rubber_geometry_vocab_match/ - matching game to learn geometry vocabulary